



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/916,271

07/30/2001

Chen-Ho Lee

112.P14007

8683

43831

7590

11/01/2007

BERKELEY LAW & TECHNOLOGY GROUP, LLP

17933 NW Evergreen Parkway, Suite 250

BEAVERTON, OR 97006

EXAMINER

QUIETT, CARRAMAH J

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

11/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	09/916,271		LEE, CHEN-HO	
	Examiner		Art Unit	
	Carramah J. Quiett		2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment(s), filed on 08/09/2007, have been entered and made of record. Claims 1-18 are pending.

### *Response to Arguments*

2. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Objections*

3. Claim 14 objected to because of the following informalities: Claim 14 recites the inter alia, "...the method wherein said photocells comprise metal at least one of a metal oxide semiconductors, or a charge-coupled device." Respectfully, the Examiner suggests deleting the underlined, italicized word, "metal". Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. **Claims 1, 3-4, 6, 9-10, 12-23, and 25-26** are rejected under 35 U.S.C. 102(b) as being anticipated by Boyd et al. (U.S. Pat. #6,166,831).

As for **claim 1**, Boyd teaches a method of reading pixel signals from a multiple staggered sensor array comprising a plurality of rows of linearly staggered image sensors (col. 2, lines 57 - col. 3, line 25), the method, comprising:

determining a selected image resolution (col. 3, lines 27-44);

receiving pixel signals from each of the linearly staggered image sensors, wherein a photosensitive region of the one or more of the image sensors of a first row are offset with a photosensitive region of the one or more of the image sensors of an adjacent row abutting said first row (col. 2, lines 57 -col. 3, line 25); and

creating a lower image resolution image utilizing said pixel signals from one of said rows of said linearly staggered image sensors, without utilizing said pixel signals from an adjacent row of an adjacent row of said linearly staggered image sensors linearly staggered image sensors (col. 3, lines 27-44).

For **claim 3**, Boyd teaches the method of claim 1, wherein said image sensors comprise a complementary metal oxide semiconductor device (col. 3, lines 27-44).

For **claim 4**, Boyd teaches the method of claim 1, wherein said reading out operation is (inherently) coordinated with at least a series of clock pulses (col. 3, lines 16-44).

As for **claim 6**, Boyd teaches a method of video signal output applicable to a multiple staggered sensor having at least two sensor rows, each sensor row comprising one or more photocells (col. 2, lines 41 -col. 3, line 25), the method comprising:

reading a scan line having one or more pixels with one of said sensor rows to generate a first consecutive video signal (col. 2, lines 41 -col. 3, line 25);

offset reading said scan line by another of said sensor rows to generate a second consecutive video signal (col. 2, lines 41 -col. 3, line 25); and

outputting said video signal output as a lower resolution signal, wherein said video signal output includes either said first consecutive video signal or said second consecutive video signal (col. 3, lines 27-44).

For **claim 9**, Boyd teaches the method of claim 6, wherein said one or more photocells comprise a plurality of complementary metal oxide semiconductor devices (col. 3, lines 27-44).

For **claim 10**, Boyd teaches the method of claim 6, wherein said video output further comprises the other of said first or second consecutive video signals (col. 3, lines 27-44).

For **claim 12**, Boyd further teaches a method, comprising:

receiving signals from a multiple staggered sensor portion, said multiple staggered sensor portion comprising at least two image sensors wherein one or more photocells of a first image sensor are offset and adjacent one or more photocells of a second image sensor, said sensors respectively providing consecutive video signals (col. 2, lines 57 -col. 3, line 25) and

outputting an image comprising signals from one of said first image sensor or said second image sensor without using consecutive video signals from the other image sensor (col. 3, lines 27-44).

For **claim 13**, Boyd teaches the method according to claim 12, further comprising outputting an image comprising signals from the other of said first image sensor or said second image sensor (col. 3, lines 27-44).

For **claim 14**, Boyd teaches the method according to claim 12, wherein said photocells comprise metal at one of a metal oxide semiconductor, or\* a charge-coupled device (col. 3, lines 27-44).

For **claim 15**, Boyd further discloses a system (figs. 1-2), comprising:

an image sensing portion (ref. 12) comprising a multiple staggered sensor array including at least two image sensors wherein one or more photocells of a first image sensor are offset and adjacent one or more photocells of a second image sensor (col. 2, lines 41 -col. 3, line 25); and,

a scanning circuit (ref. 10) capable of\* receiving signals from said first and second image sensors (col. 2, lines 41 -col. 3, line 25), and capable of outputting a lower resolution image based at least in part upon the received signals from either one of said first image sensor or said second image sensor but without using the received signals of the other of the image sensors (col. 3, lines 27-44).

**Claims 16 and 17** are method claims corresponding to method claims 13 and 14, respectively. Therefore, claims 16 and 17 are analyzed and rejected as previously discussed with respect to claims 13 and 14, respectively.

As for **claim 18**, Boyd discloses a system (figs. 1-2), comprising:

means (22) for receiving signals from a multiple staggered sensing means (ref. 18a), the multiple staggered sensing means comprising a plurality of linear image sensors (30/32), wherein a plurality of photocells (34) of one linear image sensor (30) are offset and abutting a plurality of photocells (36) of a linear image sensor (32) that is adjacent to the linear image sensor (col. 2, lines 41 -col. 3, line 25); and

means (switch control signal) for outputting an image comprising signals from one linear image sensor of the multiple staggered sensing means without utilizing another linear image sensor of the multiple staggered sensing means (col. 3, lines 27-44).

**Claims 19 and 20** are system claims corresponding to method claims 13 and 14, respectively. Therefore, claims 19 and 20 are analyzed and rejected as previously discussed with respect to claims 13 and 14, respectively.

For **claim 21**, Boyd teaches the method of claim 1, further comprising

creating a higher image resolution image utilizing said pixel signals from one of said plurality of rows of linearly staggered image sensors with said pixel signals from an adjacent row of said linearly staggered image sensors (col. 3, lines 27-44).

As for **claim 22**, Boyd teaches a method of reading pixel signals from a multiple staggered sensor array comprising at least two rows of linearly staggered image sensors (col. 2, lines 57 -col. 3, line 25), the method comprising:

determining a selected resolution of an image (col. 3, lines 27-44);

if a first resolution is selected, reading pixel signals from each of a plurality of photocells of a first of the at least two rows of linearly staggered image sensors (col. 3, lines 27-44), and

if a second resolution is selected, additionally reading pixel signals from each of a plurality of photocells of a second of the at least two rows of linearly staggered image sensors, wherein the second resolution is higher than the first (col. 3, lines 27-44).

For **claim 23**, Boyd teaches the method of claim 22, wherein the pixel signals from the photocells of the second row of linearly staggered image sensors are read after the pixel signal from a last photocell of the first row of linearly staggered image sensors are read (col. 3, lines 27-44).

For **claim 25**, Boyd teaches the method of claim 22, wherein said image sensors comprise a complementary metal oxide semiconductor device (col. 3, lines 27-44).

For **claim 26**, Boyd teaches the method of claim 22, wherein said reading out operation is coordinated with at least a series of clock pulses (col. 3, lines 16-44).

Art Unit: 2622

6. **Claims 22, 24 and 27-31** are rejected under 35 U.S.C. 102(e) as being anticipated by Spears (U.S. Pat. #6,894,812).

As for **claim 22**, Spears teaches a method of reading pixel signals from a multiple staggered sensor array comprising at least two rows of linearly staggered image sensors (col. 8, lines 30-42), the method comprising:

determining a selected resolution of an image (col. 8, lines 43-61);

if a first resolution is selected, reading pixel signals from each of a plurality of photocells of a first of the at least two rows of linearly staggered image sensors (col. 8, lines 43-48), and

if a second resolution is selected, additionally reading pixel signals from each of a plurality of photocells of a second of the at least two rows of linearly staggered image sensors, wherein the second resolution is higher than the first (col. 8, lines 48-61).

For **claim 24**, Spears discloses the method of claim 22, wherein said image sensors comprise charge- coupled devices (col. 8, lines 43-61).

For **claim 27**, Spears discloses the method of claim 22, further comprising outputting said pixel signals from said consecutive image sensors into an analog/digital converter (col. 6, lines 58-60).

As for **claim 28**, Spears teaches an apparatus (fig. 4) comprising:

a multiple staggered sensor array including at least two rows of linearly staggered image sensors (refs. 404, 408), said sensor array to read out pixel signals from the image sensors row by row (col. 8, lines 30-61);

wherein photocells of a first of the at least two rows of linearly staggered image sensors to be read for a low resolution image (col. 8, lines 43-48), and



wherein photocells of a second of the at least two rows of linearly staggered image sensors to be read for a high resolution image (col. 8, lines 48-61).

As for **claim 29**, Spears discloses an apparatus (fig. 4) comprising:

an image capture device (fig. 4), said image capture device including a multiple staggered sensor array comprising at least two rows of linearly staggered image sensors (col. 8, lines 30-61);

said sensor array to read out pixel signals from the image sensors row by row (col. 8, lines 43-61);

wherein photocells of a first of the at least two rows of linearly staggered image sensors to be read for a low resolution image (col. 8, lines 43-48).

For **claim 30**, Spears discloses the apparatus of claim 29, wherein said image capture device comprises a scanner (col. 8, lines 30-63).

For **claim 31**, Spears discloses the apparatus of claim 30, wherein photocells of a second of the at least two rows of linearly staggered image sensors to be read for a high resolution image (col. 8, lines 48-61).

### ***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claims 1-2, 5-8, and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoffel et al. (U.S. Pat. #4,432,017) in view of Spears (U.S. Pat. #6,894,812).

As for **claim 1**, Stoffel teaches a method of reading pixel signals from a multiple staggered sensor array (col. 2, line 43 – col. 3, line 49) comprising a plurality of rows of linearly staggered image sensors (col. 2, lines 43-57), the method, comprising:

receiving pixel signals from each of the linearly staggered image sensors (col. 2, lines 43-46), wherein a photosensitive region of the one or more of the image sensors of a first row are offset with a photosensitive region of the one or more of the image sensors of an adjacent row abutting said first row;

However, Stoffel does not expressly teach determining a selected image resolution; and creating a lower image resolution image utilizing said pixel signals from one of said rows of said linearly staggered image sensors, without utilizing said pixel signals from an adjacent row of an adjacent row of said linearly staggered image sensors linearly staggered image sensors.

In a similar field of endeavor, Spears teaches determining a selected image resolution; and creating a lower image resolution image utilizing said pixel signals from one of said rows of said linearly staggered image sensors, without utilizing said pixel signals from an adjacent row of an adjacent row of said linearly staggered image sensors linearly staggered image sensors. Please see fig. 4 and read col. 8, lines 43-48. In light of the teaching of Spears, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Stoffel with the lower resolution method as claimed in claim 6. This modification produces a quality image from a scanner at a high speed and high color quality (Spears, col. 3, lines 10-12).

For **claim 2**, Stoffel, as modified by Spears, teaches the method of claim 1, wherein said sensors comprise charge-coupled devices (Stoffel, col. 2, lines 43-46).

For **claim 5**, Stoffel, as modified by Spears discloses a method of claim 1, further comprising outputting said pixel signals from said consecutive linear image sensors into an analog/digital converter (Spears, col. 6, lines 58-60).

As for **claim 6**, Stoffel teaches a method of video signal output applicable to a multiple staggered sensor having at least two sensor rows, each sensor row comprising one or more photocells, the method comprising:

reading a scan line having one or more pixels with one of said sensor rows to generate a first consecutive video signal (col. 2, lines 43-57);

offset reading said scan line by another of said sensor rows to generate a second consecutive video signal (col. 2, lines 43-57); and

However, Stoffel does not expressly teach outputting said video signal output as a lower resolution signal, wherein said video signal output includes either said first consecutive video signal or said second consecutive video signal.

In a similar field of endeavor, Spears teaches a method for outputting said video signal output as a lower resolution signal, wherein said video signal output includes either said first consecutive video signal or said second consecutive video signal. Please see fig. 4 and read col. 8, lines 43-48. In light of the teaching of Spears, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Stoffel with the lower resolution method as claimed in claim 6. This modification produces a quality image from a scanner at a high speed and high color quality (Spears, col. 3, lines 10-12).

For **claim 7**, Stoffel further teaches the method wherein said photocells of one said sensor row are offset abutting with said photocells of the other adjacent sensor row respectively (col. 2, lines 43-46).

For **claim 8**, Stoffel teaches the method of claim 6, wherein said one or more photocells comprise a plurality of charge-coupled devices (col. 2, lines 43-46).

**Claim 11** is a method claim corresponding to method claim 5. Therefore, claim 11 is analyzed and rejected as previously discussed with respect to claim 5.

**\*Note:** The U.S. Patent and Trademark Office considers Applicant's "*or*" language and "*at least one of*" language to be anticipated by any reference containing one of the subsequent corresponding elements.

**\*\*Note:** The Applicant's "*capable of*" language as used in the claims broadens the scope of the claims. The MPEP states that, "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by language that does not limit a claim to a particular structure." (MPEP 2111.04 [R-3]) In other words at the U.S. Patent and Trademark Office, if a limitation is written with "capable of" language, a reference is deemed to meet that limitation if the reference discusses the same element that, although not actually performing the claimed function, is **structurally capable of** performing it. Accordingly, the Examiner *will not* give a limitation with "capable of" language patentable weight.

*Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

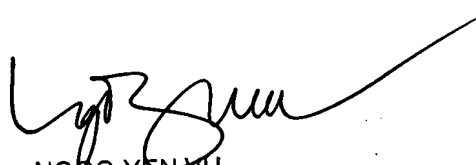
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CJQ  
October 27, 2007

  
NGOC-YEN VU  
SUPERVISORY PATENT EXAMINER